What is claimed is:

1. An LCD driving circuit for driving an LCD to display a video image, comprising:

a digital gamma-correction and inversion circuit, coupled to receive a digitized video signal, for performing a digital gamma-correction process on the digitized video signal and then performing a polarity inversion process on selected lines of the gamma corrected video signal;

a digital-to-analog conversion means, coupled to said digital gamma-correction and inversion circuit, for converting the digital output of said digital gamma-correction and inversion circuit into analog form;

an LCD timing control circuit, coupled to receive a plurality of video control signals associated with the digitized video signal, for converting the video control signals into an LCD timing control signal to control the display of the digitized video signal on the LCD; and

a PWM and shutdown circuit for supplying power to the LCD and shutting down the LCD when the LCD has been idle for a preset period.

2. The LCD driving circuit of claim 1, wherein said digital gamma-correction and inversion circuit is coupled to a display memory unit in which the data of the digitized video signal are stored, so as to fetch the digitized video signal directly from said display memory unit.

3. The LCD driving circuit of claim 1, wherein said plurality of video control signals received by said LCD timing control circuit include a horizontal synchronizing signal, a vertical synchronizing signal and a pixel clock signal.

4. The LCD driving circuit of claim 1, wherein said LCD timing control circuit comprises a means for setting a user-desired resolution for the LCD to display the video image based on a logic signal representative of the user-set resolution.

5. The LCD driving circuit of claim 1, wherein said PWM and shutdown circuit is used in conjunction with a filtering circuit to convert an input DC voltage to the power required to drive the LCD and said PWM and shutdown circuit shuts down the LCD in response to a shutdown trigger signal.

6. The LCD driving circuit of claim 1, wherein said digital gamma-correction and inversion circuit performs the polarity inversion process in such a manner that odd-numbered lines are positively polarized while even-numbered lines are negatively polarized.

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7. An LCD driving circuit for driving an LCD to display a video image, comprising:

a digital gamma-correction and inversion circuit, coupled to receive a digitized video signal, for performing a digital gamma-correction process on the digitized video signal and then performing a polarity inversion process on selected lines of the gamma corrected video signal;

a digital-to-analog conversion means, coupled to said digital gamma-correction and inversion circuit, for converting the digital output of said digital gamma-correction and inversion circuit into analog form; and

an LCD timing control circuit, coupled to receive a plurality of video control signals associated with the digitized video signal, for converting the video control signals into an LCD timing control signal to control the display of the digitized video signal on the LCD.

8. The LCD driving circuit of claim 7, further comprising:

a PWM and shutdown circuit for supplying power to the LCD and shutting down the LCD when the LCD has been idle for a preset period.

9. The LCD driving circuit of claim 8, wherein said PWM and shutdown circuit is used in conjunction with a filtering circuit to convert an input DC voltage to the power required to drive the LCD and said PWM and shutdown circuit shuts down the LCD in response to a shutdown trigger signal.

10. The LCD driving circuit of claim 7, wherein said digital gamma-correction and inversion circuit is coupled to a display memory unit in which the data of the digitized video signal are stored, so as to fetch the digitized video signal directly from said display memory unit.

11. The LCD driving circuit of claim 7, wherein said plurality of video control signals received by said LCD timing control circuit include a horizontal synchronizing signal, a vertical synchronizing signal and a pixel clock signal.

11 ~~12.~~ The LCD driving circuit of claim 7, wherein said LCD timing control circuit comprises:

means for setting a user-desired resolution for the LCD to display the video image based on a logic signal representative of the user-set resolution.

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